

REMARKS

The paper is in response to the Office Action mailed August 26, 2010 ("the Office Action"). The foregoing amendment cancels claims 1-28, 30-31, 37, 39, and 53-54 and amends claims 29, 61, and 67. Claims 29, 32-36, 38-52, and 55-70 are now pending in view of the amendments. Applicants respectfully request reconsideration of the application in view of the above amendments to the claims and the following remarks. For Examiner's convenience and reference, Applicants present remarks in the order that the Office Action raises the corresponding issues.

In connection with the prosecution of this case and any related cases, Applicants have, and/or may, discuss various aspects of the disclosure of the cited references as those references are then understood by the Applicants. Because such discussion could reflect an incomplete or incorrect understanding of one or more of the references, the position of the Applicants with respect to a reference is not necessarily fixed or irrevocable. Applicants thus hereby reserve the right, both during and after prosecution of this case, to modify the views expressed with regard to any reference.

Please note that Applicants do not intend the following remarks to be an exhaustive enumeration of the distinctions between any cited references and the claims. Rather, Applicants present the distinctions below solely by way of example to illustrate some of the differences between the claims and the cited references. Finally, Applicants request that Examiner carefully review any references discussed below to ensure that Applicants' understanding and discussion of any reference is consistent with Examiner's understanding.

Unless otherwise explicitly stated, the term "Applicants" is used herein generically and may refer to a single inventor, a set of inventors, an appropriate assignee, or any other entity or person with authority to prosecute this application.

Rejection Under 35 U.S.C. §112, ¶2

The Office Action rejects 29, 40 and 41 have been rejected under 35 U.S.C. §112, ¶2. Applicants amend claims 29, 40, and 41 to correct the lack of antecedent basis in claim 29 and to

correct the dependency of claims 40 and 41. As such, Applicants respectfully request that Examiner withdraw the rejection of claims 29, 40 and 41 under 35 U.S.C. §112, ¶2.

Rejection under 35 U.S.C §103(a)

The Office Action rejects claims 29, 32, 33, 40, 41, and 43-51 under 35 U.S.C §103(a) over *Tamaru* (U.S. Patent Publication No. 2002/0059320) in view of *Karaoguz* (U.S. Patent Publication No. 2004/0203931) in further view of *Yang-Huffmann* (U.S. Patent Publication No. 2003/0110252) and *Tantry* (U.S. Patent 5,548,756).

The Office Action rejects claims 34-36 under 35 U.S.C §103(a) over *Tamaru* in view of *Karaoguz* in further view of *Yang-Huffmann* and *Tantry*, in further view of *Soderberg et al* (U.S. Patent No 6,519,626).

The Office Action rejects claims 52, 55 and 56 under 35 U.S.C §103(a) over *Tamaru* in view of *Karaoguz* in further view of *Yang-Huffmann*.

The Office Action rejects claims 57-59 under 35 U.S.C §103(a) over *Tamaru* in view of *Karaoguz* in further view of *Yang-Huffmann* and *Soderberg*.

The Office Action rejects claims 38, 42 and 60 under 35 U.S.C §103(a) over *Tamaru* in view of *Karaoguz* in further view of *Yang-Huffmann* in further view of *Uhler* (U.S. Patent Publication No 2001/0039587).

The Office Action rejects claims 61-65 under 35 U.S.C §103(a) over *Tamaru* in view of *Yang-Huffmann* in further view of *Uhler* in further view of *Birger* (U.S. Patent Publication 20090006840).

The Office Action rejects claim 68 under 35 U.S.C §103(a) over *Tamaru* in view of *Yang-Huffmann*.

The Office Action rejects claims 66 and 69 under 35 U.S.C §103(a) over *Tamaru* in view of *Yang-Huffmann* in further view of *Karaoguz*.

The Office Action rejects claims 67 and 70 under 35 U.S.C §103(a) over *Tamaru* in view of *Yang-Huffmann* in further view of *Karaoguz* and in further view of *Gunji* (U.S. Patent No. 5,926,117).

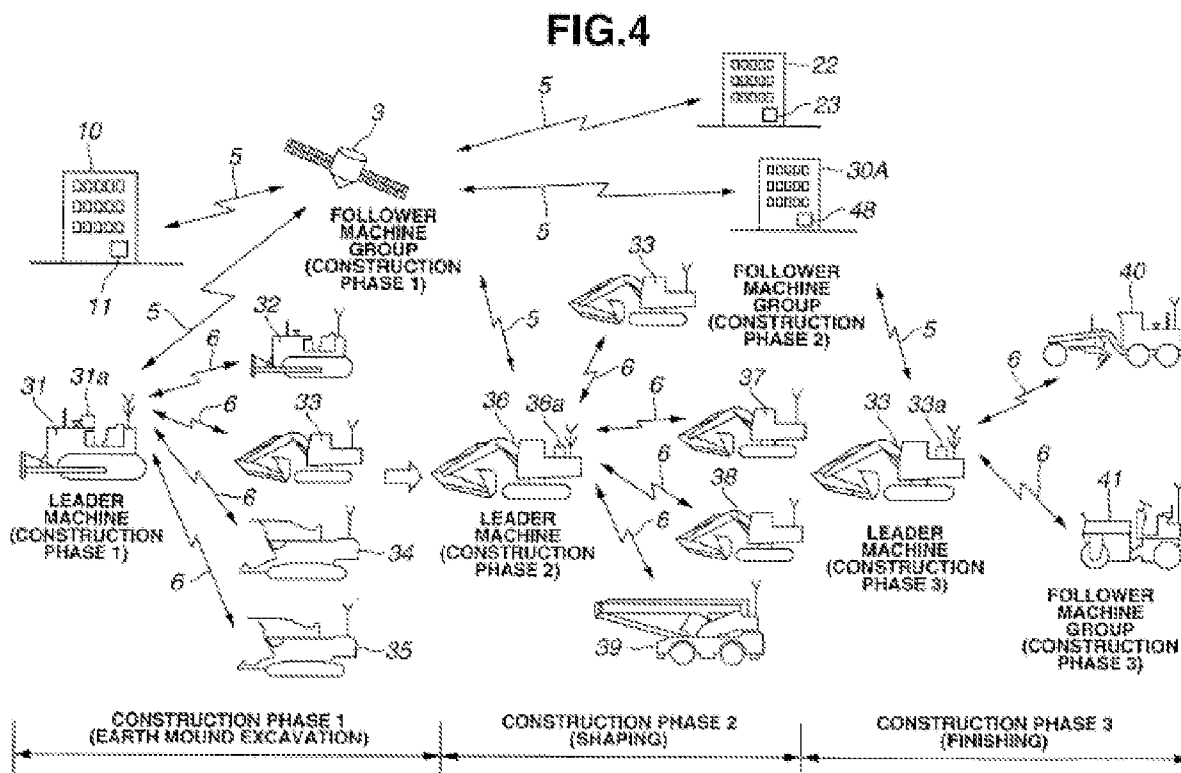
Under 35 U.S.C §103(a), "[a] patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." According to MPEP §2142, "[t]he examiner bears the initial burden of factually supporting any *prima facie* conclusion of obviousness. If the examiner does not produce a *prima facie* case, the applicant is under no obligation to submit evidence of nonobviousness." Finally, MPEP 2141.III notes that:

"The key to supporting any rejection under 35 U.S.C. 103 is the *clear articulation of the reason(s) why the claimed invention would have been obvious*. The Supreme Court in *KSR* noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Court quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006), stated that "[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396." (emphasis added)

In the interest of expediting prosecution, each of the independent claims have been amended to specify that the address structure reflecting the hierarchical position of the fixed or mobile items of apparatus includes a Uniform Resource Locator (URL), the URL having a directory-path portion corresponding to said address structure reflecting the hierarchical position of said fixed or mobile selected item of apparatus. While URLs are known, none of the references cited teaches or suggest using a URL having a directory-path portion corresponding to said address structure reflecting the hierarchical position of said fixed or mobile selected item of apparatus as currently required by the claims.

Each of the independent claims have also been amended to specify that hierarchical positions of one or more items of networked apparatus are dynamically changeable based on the progress of the worksite, addition of one or more new items of apparatus to the worksite, and reassignment of one or more items of apparatus on the worksite. Thus, as a job on a worksite progresses new items as apparatus might be assigned to the job or removed from the job, which dynamically changes the hierarchical positions of the various networked apparatuses.

Tamaru is the main reference cited by the Patent Office to show a worksite, and a work machine management system on that work site. As shown in Figure 4 (below) of *Tamaru* the worksite includes a leader machine 31 that directs follower machines 32-35 in Phase 1 of construction. The Patent Office, itself, identifies this relationship as a hierarchy according to the claims. While this relationship identified by the Patent Office exists in the teachings of *Tamaru*, *Tamaru* does not use this relationship in an address structure for communication whatsoever.



Rather, the communication address structure for the machines in *Tamaru* is **very simple**. *Tamaru* uses “vehicle IDs that are symbolic codes which specify each individual construction machine, and the correlation between the construction machine types, models, and machine numbers.” ¶297; see also ¶302 and ¶303. So, for example, the vehicle ID of Phase 1 leader machine 31 might indicate that it is a bulldozer, the model of the bulldozer, and that it is the first of two bulldozers on the worksite. But, this vehicle ID of bulldozer clearly says nothing about its hierarchical position on the worksite or its leader-follower relationship with other machines.

In each rejection, *Yang-Huffmann* is cited as showing an address structure based on a hierarchical structure. *Yang-Huffmann* is directed to monitoring network usage and has nothing

to do with managing machines on a worksite. *Yang-Huffmann* collects data from a node of a network describing usage of the network, and in some embodiments, the network usage monitoring systems employ Simple Network Management Protocol (SNMP). As *Yang-Huffmann* has nothing to do with worksites or mobile equipment, it appears that *Yang-Huffmann* is being cited as an isolated, and random, example of the organization of objects of in information base in a hierarchical or tree structure. See ¶7. As *Yang-Huffmann* explains:

The tree structure itself defines a grouping of objects into a logically related set. Each object in the tree is generally associated with a unique identifier and generally consists of a sequence of integers such as, for instance, 1.3.1.6.1.2.1.1.3 (representing iso.org.dod.internet.mgmt.mib2.system.sysuptime). This unique identification is called an Object Identifier (OID). In the foregoing, "iso" stands for "International Organizations for Standards"; "org" stands for "organization"; "dod" stands for "Department of Defense"; "mgmt" stands for "management"; "mib2" stands for "management information base 2"; and "sysuptime" stands for "system up time" which is the elapsed time to any given moment from the point in time where the system was last initialized.

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And from this description of SNMP by *Yang-Huffmann*, the Patent Office reasons that it would be obvious to "map[] the network devices constituted by the construction work machines (mobile or static), into a map file using SNMP, showing the dependency relationship between the work machines and storing the information in a database, in order to implement the sorting of a correspondence between each said item of apparatus and an address structure reflecting the hierarchical position of that item of apparatus.... as disclosed in claim 29."

However, neither *Tamaru* nor *Yang-Huffmann* teach or suggest that such a mapping of work machines would be advantageous or predictable and neither *Tamaru* nor *Yang-Huffmann* teach or suggest the dynamic updating or modification of a URL address structure as a job on a worksite progresses. That is, *Tamaru* does not teach that a different, improved, or hierarchy-related addressing would be advantageous; and, *Yang-Huffmann* does not teach an application of SNMP beyond the application of network usage monitoring.

Moreover, *Tamaru* says nothing about the need for network usage monitoring. And, *Yang-Huffmann* indicates that "SNMP protocol is commonly used for network managers to

manage and exchange information with their agents" which is not indicated as an apparent issue, or of use, in *Tamaru*.

So, the question becomes, where does an origin of for suggestion, motivation, or predictable reason exist for doing what the Patent Office proposes? According to the Patent Office:

Using SNMP to map a hierarchical network of devices, with end nodes described with their name/IP allow a descriptive view of the dependencies in a network and could help pinpoint root causes of nodes failures (paragraph [0028], lines 14-21, from *Yang-Huffmann*). For example, if device 1 is mapped as node1.node2.node3node4.device1 and device 2 is mapped as node1.node2.node3.device2, if device 2 is functioning OK and device 1 failing we can deduct that node1.node2.node3 are functioning properly, that narrows the search of failure to node4 or device1.

Office Action at page 8.

This rationale might well make sense in *Yang-Huffmann*, but the Patent Office has not shown that this rationale makes sense as proposed to be implemented in *Tamaru*. For example, what does node1, node2, node3, and node4 represent in Figure 4 of *Tamaru*? Could node1 represent satellite 3, node2 represent leader machine 31, node3 represent follower machine 32 and node 4 represent follower machine 33? And, if office 10 were a node5, in this example, and communication between machine 32 (node3) and office 10 (node5) failed, would we know anything more about which node was faulty based on communication between machine 33 and office 10? For example, would we be any better troubleshooting, according to the example provided in the Office Action, in *Tamaru* according to the teachings of *Yang-Huffmann*. And, is the issue of network troubleshooting identified by the Patent Office raised by *Tamaru* as a problem addressed therein?

Thus, the Patent Office has not shown a reasonable expectation of success as the Patent Office has not explained exactly how the references are to be functionally and successfully combined to arrive at the claimed invention while retaining their intended purpose. Rather, the above examples illustrate how the teachings of a hierarchical tree structure in a conventional network usage monitoring implementation does not suggest a similar inherent reasoning for implementation on a worksite management network communication implementation according

to the Applicant's claimed invention. And, such network monitoring implementation simply has nothing to do with a network implementation with between various mobile and static machines on a worksite between devices thereon as in *Tamaru*.

In addition, the Patent Office has not shown that the hierarchical tree structure of *Yang-Huffmannn* could be successfully implemented in a worksite implementation where the various hierarchical relationships of the equipment on a worksite dynamically change over time. To further illustrate this distinction, claim 61 has been amended to recite, "the first and second hierarchies are dynamically changeable based on the progress of the worksite, addition of one or more new items of apparatus to the worksite, and reassignment of one or more items of apparatus on the worksite."

In the present application, the hierarchies can vary in time and worksite evolution. In the prior art, e.g. in SMTP, a predefined rigid hierarchy based on a predefined static scheme is used. A description of this can be found on page 23, line 18 to page 24, line 20, or also in other parts of the Applicant's description.

And, even further, where the embodiment of the present invention includes a peer-to-peer environment where the exact nodes through which communications travel are not necessarily known, how would the teachings and reasoning of *Yang-Huffmannn* apply? For example, where the communication between two nodes travels different routes to one another why would the hierarchical model of *Yang-Huffmann* be used, and would such use be successful, in identification of faulty nodes as suggested in the Office Action?

The cited document of *Karaoguz* discloses a method and apparatus for detecting and providing information on wireless devices in a certain proximity. Therein, besides the common identification of the devices, also distance and position information of the surrounding devices is evaluated.

Karaoguz would not be considered by a skilled person given the task to manage worksite apparatus either. The problem solved therein is a distance based representation of surrounding networking equipment, which does not contribute to the problem of managing worksite-apparatus based on a management relationship. In fact, the environments suggested by

Karaoguz, are **coffee shops** and **hotels** where the devices, to which the location is determined, include printers, PDAs, and other common devices for such environments. Even if a skilled person would misinterpret the teaching of *Karaoguz* as disclosing peer to peer communication, still a worksite-dependency-relationship-based addressing of apparatus in multiple hierarchical levels for initiating the peer to peer communication, as in the present application, would not have been obvious in view of the Applicant's claimed invention.

The cited document of *Gunji* discloses a vehicle control system for controlling and managing the movement of autonomous road-vehicles. The vehicles therein are capable of determining their spatial position and distances, and of communicating with each other. Based on the mutual positional relationships, the control system of the autonomous cars are designed to avoid collisions

The assumption that an autonomous car crash avoidance system would be considered by a skilled person given the task to manage a worksite information exchange in a generalized, human readable way, is also unreasonable. A document concerned with the problem of collision avoidance for autonomous cars would not be considered relevant, or helpful, for a worksite communication system wherein the main purpose is not a collision avoidance of autonomous machinery but an easy and flexible interaction. Even if *Gunji* would be considered, a skilled person would not obviously be lead to the scope of the present invention, as an uncoordinated "next-neighbor-communication" would not be considered to be helpful in a worksite management, where the apparatus are organized in a dependency hierarchy according to a certain worksite-task given to them.

The newly cited reference to Tantry is directed to an object oriented architecture for factory floor management. While Tantry shows in Figure 2 an object oriented organization of stationary and mobile equipment, Tantry does not teach or suggest an address structure reflecting the hierarchical position of fixed or mobile items of apparatus includes a Uniform Resource Locator (URL), said URL having a directory-path portion corresponding to said address structure reflecting the hierarchical position of said fixed or mobile selected item of apparatus or that this address structure is dynamically updated when over the course of a job at the worksite.

Thus, the Applicant respectfully requests that the rejections be withdrawn as the references cited to not teach or suggest the claimed invention and the rejections are clearly based on impermissible hindsight reconstruction of the claimed invention. Further, the Applicant also respectfully request that the rejections be withdrawn as many of the proposed combinations of various elements of unrelated references are unclear as to a functional and successful combination of components fit for its intended purpose.

Claim 71 has been added and is believed to be allowable at least for the foregoing reasons.

Charge Authorization

The Commissioner is hereby authorized to charge payment of any of the following fees that may be applicable to this communication, or credit any overpayment, to Deposit Account No. 50-5394: (1) any filing fees required under 37 CFR § 1.16; (2) any patent application and reexamination processing fees under 37 CFR § 1.17; and/or (3) any post issuance fees under 37 CFR § 1.20. In addition, if any additional extension of time is required, which has not otherwise been requested, please consider this a petition therefor and charge any additional fees that may be required to Deposit Account No. 23-3178.

CONCLUSION

In view of the foregoing, Applicants submit that the pending claims are allowable. In the event that Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview or overcome by an Examiner's Amendment, Examiner is requested to contact the undersigned attorney.

Dated this 26th day of March, 2011.

Respectfully submitted,

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